Chapter 3. Revisions to the Draft Program Environmental Impact Report

This chapter shows the revisions made to the draft PEIR in response to the comments received during the February 2–March 17, 2004, public review period. The revisions are listed by the chapter and page number of the February 2004 draft PEIR. For the most part, the entire paragraph of the draft PEIR that is being revised is reproduced, and any deletions and additions are shown by strikeouts and underlines, respectively; this will provide the reader with the context of the revision. However, where a revision is minor and affects only a single sentence, only that sentence may be shown.

Executive Summary

Page ES-4, first full paragraph. Revise the paragraph as follows:

> In September of 2000 a lawsuit was filed by Kern County and other litigants against the SWRCB regarding the ~~June 1999~~ version of this PEIR that was certified in August of 2000. The suit challenged various aspects of the adequacy of the PEIR. A hearing was held in July 2001 and a ruling was issued in ~~on~~ August 2003. This ruling stated that the SWRCB generally complied with CEQA in developing and certifying the PEIR, however it ordered the PEIR to be de-certified pending recirculation of a revised PEIR that addressed two new alternatives (Kern v. SWRCB 2002).

Page ES-5, first paragraph under "Disposal and Reuse Methods." Revise as follows:

> Most of the biosolids being reused in California are generated in the Los Angeles and Orange County areas, as well as in other large urban centers of the state (San Diego, the San Francisco Bay Area, Sacramento). Much of this material is transported a considerable distance by truck for land application. The counties supporting the largest amounts of biosolids reuse are Merced, San Diego, Riverside, and Solano. Prior to the adoption of restrictive local ordinances limiting the application of biosolids in 2001 and 2002, the Counties of Kings and Kern accepted a major portion of the southern California biosolids stream. As a result of the local ordinances, application of Class B biosolids in those counties has been reduced.

Table ES-1. Revise the level of significance for the last impact under "Public Health" (Potential for exposure to unsafe levels of radionuclides) from "Significant" to "Potentially Significant" to be consistent with the approach taken for other impacts in the Executive Summary table.

Table ES-2. Insert new Table ES-2, to follow existing Table ES-1.

Table ES-2.
Comparison of Relative Impacts
Between Proposed Project and the Alternatives

Impact Area	Proposed GO	No-Project Alternative	Modified GO	Land Application Ban	Class A Only	Food Crop Limitation
Soils, Hydro, & Water Quality	LTS (LTS)	–	+	+	O	+
Land Productivity	S (LTS)	–	+	+	O	+
Public Health	S (LTS)	–	+	+ =	+	+
Land Use & Aesthetics	S (LTS)	O	+	–	+	+
Biological Resources	S (LTS)	O	+	O	+	+
Fish	S (LTS)	O	+	O	+	+
Traffic	LTS (LTS)	–	O	–	–	–
Air Quality	LTS (LTS)	O	+	–	–	–
Noise	S (LTS)	O	+	–	+	+
Cultural Resources	S (LTS)	O	+	O	+	+
Cumulative Impact	S (LTS)	O	+	–	–	–

Note: The impact of the proposed GO before mitigation is based on the worst impact within that impact category. The impact of the proposed GO after mitigation is shown in parentheses.

Symbols: "LTS" means less-than-significant; "S" means significant; and "SU" means significant and unavoidable. For the alternatives: "O" means basically the same impact as the proposed GO; "+"means a relatively less severe impact than the proposed GO; and "—" means a relatively more severe impact than the proposed GO. All comparisons are between the alternatives and the proposed GO without mitigation.

Under the Land Application Ban Alternative, the alternative would have a less severe impact related to the risk of disease than the proposed GO, but a more severe impact on air emissions related to future incinerators.

Page ES-14, third paragraph under "Environmentally Superior Alternative." Revise the paragraph as follows:

The Class A Only and Food Crop Limitation alternatives would avoid the impacts identified for the proposed GO (before mitigation) and have a similar level of impacts to the Modified GO alternative. However, neither of them is ~~an~~ the environmentally superior alternative when compared to the Modified GO, for the following reasons. Both the Class A Only and Food Crop Limitation alternatives would have greater levels of impact with regard to truck traffic, air quality, and energy use. Under the Class A Only alternative, the~~The~~ additional effects would occur as treatment plant operators that are currently land-applying Class B biosolids convert to more energy-intensive Class A treatment and ~~or decide to~~ haul biosolids to~~distant~~ out-of-state land application or disposal sites. Under the Food Crop Limitation alternative, additional effects would occur because treatment plant operators can be expected to haul some portion of the Class A and Class B biosolids now being applied to food crops (27,060 dry tons in 2003) to out-of-state sites, thereby increasing the truck traffic to those alternative sites and overall miles traveled.

Chapter 1, "Introduction"

There would be no changes to Chapter 1.

Chapter 2, "Program Description"

Page 2-2, second paragraph under "Quantity of Biosolids Generated." Revise this paragraph as follows:

Based on the positive responses, CASA concluded that daily biosolids generation was 1,025 dry tons per day (TPD) in 1988; 1,610 dry TPD in 1991; 1,842 dry TPD in 1998; and 5,884 dry TPD in 2001. The 2001 figure was an estimate based on raw data then available from U.S. EPA Region IX. More recent information from U.S. EPA Region IX, based on the annual reports submitted by the POTWs for 2003, indicates that approximately 777,480 dry tons of biosolids were produced statewide in 2003 (Fondahl. 2004). This would yield a daily generation of about 2,130 dry TPD. This is a more accurate estimate of generation than the CASA estimate.

More than 70% of this material is generated at 10 POTWs that have daily wastewater flows in excess of 50 million gallons per day (mgd). Figure 2-2 shows the regional distribution of biosolids production within each RWQCB region, which is generally similar in all the surveys. As shown in Figure 2-2, the Los Angeles region generates the greatest percentage (nearly 40% in 1998) of biosolids among the nine RWQCB areas, followed in order by the Central Valley, San Francisco, Santa Ana, and San Diego regions.

Page 2-3, delete the third paragraph under "Disposal and Reuse Methods" and insert the following:

In March 2004, after release of the draft Program EIR, the U.S. EPA Region IX compiled basic data on the fate of Class A and Class B biosolids that were produced in California in 2003 (Fondahl 2004). The following data reflect the results of the 2003 annual reports received by Region IX from biosolids generators statewide.

Table 2-1a. Fate of Class A and Class B Biosolids—2003

Fate of Biosolids	Amount (dry tons/year)	Percent of Total
Applied to land – including landscaping, nurseries, and on-site vegetation	386,980	49.8
Landfilled – including ADC and surface disposal	231,000	29.7
Transported out of state – including transported to AZ, NV, and tribal lands	81,400	10.5
Long-term treatment or storage	44,000	5.6
Incinerated	26,400	3.4
Cement manufacturing and other	7,700	1.0
Total Biosolids	**777,480**	**100**

Source: U.S. EPA, Region IX, Biosolids Coordinator, San Francisco, CA, March 2004.

Page 2-3. revise the fourth paragraph under "Disposal and Reuse Methods" as follows:

Most of biosolids beneficially used in California are generated in the southern counties, as well as in the other large urban centers such as the Bay Area. Much of this material is transported by truck to agricultural areas for land application. There are some exceptions, such as the City of Bakersfield Public Works Department, where the producer maintains its own biosolids application site close to its POTW. In the case of Bakersfield, it applied approximately 3,450 dry tons of Class B biosolids to its 5,000-acre city-owned farm in 2003 (City of Bakersfield. 2004). Table 2-1 identified the major sources of biosolids generation ~~applied to land in 2001~~and land application by county, as compiled by the U.S. EPA Region IX from the dischargers' 2003 Annual Reports, Table 2-2 identifies the estimated volumes of biosolids disposed (as opposed to land applied) by county~~distribution of production by RWQCB region~~. The counties producing the largest amounts of biosolids in ~~2001~~ 2003 were Los Angeles, ~~Riverside, San Bernardino~~Santa Clara, San Diego, and Orange. Counties accepting the largest amounts of biosolids (including Class A, Class B, and EQ) for land application in 2003 were Kern, Kings, Merced, Riverside, and Solano.

Table 2-2a identifies the amount of agricultural lands to which biosolids were applied statewide, by type of crop, in 2001. Table 2-2b identifies the amounts of Class A and Class B biosolids applied to land, by type of crop, based on the 2003 annual reports filed with U.S. EPA Region IX.

Tables 2-1 and 2-2. Replace the existing tables with the following.

Table 2-1. Estimated Biosolids Generation, Treatment, and Application by County from 2003 Annual Reports

County	Biosolids Produced in County (Dry Tons)	Biosolids Treated by Second Preparer in County (Dry Tons)	Biosolids Land Applied in County (Dry Tons)
Alameda	29,700	0	0
Alpine	<440	0	0
Amador	<440	0	0
Butte	2,640	0	0
Calaveras	<440	0	0
Colusa	<440	0	0
Contra Costa	45,100	0	0
Del Norte	<440	0	0
El Dorado	2,750	0	0
Fresno	14,300	0	0
Glenn	<440	0	0
Humboldt	770	0	440
Imperial	3,300	0	0
Inyo	<440	0	0
Kern	13,200	85,800	114,400 (lime-treated Class A, thermophillic Class A, and Class B on city property; not counted: composted Class A) *
Kings	1,210	33,000	101,200 (13,200 lime treated Class A; assuming use of approx 88,000 composted Class A from Kern County) *
Lake	<440	0	110
Lassen	<440	0	220
Los Angeles	248,600	0	3,960 (in-county composted Class A)
Madera	1,100	0	990
Marin	4,400	0	0
Mariposa	<440	0	0
Mendocino	770	0	55
Merced	2,200	0	25,300 (1,540 in-county)
Modoc	<440	0	0
Mono	<440	0	0
Monterey	8,800	0	0
Napa	2,200	0	2,200
Nevada	3,300	0	0
Orange	61,600	0	0

County	Biosolids Produced in County (Dry Tons)	Biosolids Treated by Second Preparer in County (Dry Tons)	Biosolids Land Applied in County (Dry Tons)
Placer	2,750	0	0
Plumas	<440	0	0
Riverside	47,300	44,000	14,740 (Class A air-dried or pasteurized; does not include compost) **
Sacramento	12,100	0	13,420(512 fromin-county)
San Benito	2,310	0	0
San Bernardino	34,100	26,400	2,530 (not including compost)
San Diego	62,700	0	0
San Francisco	20,900	0	0
San Joaquin	9,900	0	1,540
San Luis Obispo	3,850	0	0
San Mateo	12,100	0	0
Santa Barbara	7,260	1,925 (compost)	0 (not including compost)
Santa Clara	81,400	0	0
Santa Cruz	4,620	0	0
Shasta	3,962	0	3,960
Sierra	<440	0	0
Siskiyou	<440	0	0
Solano	11,000	0	13,200 (8,800 out-of-county)
Sonoma	6,600	1,430 (at-plant composting)	3,740 (including compost; 990 out-of-county)
Stanislaus	15,400	10,780 (at-plant composting)	0 (not including compost)
Sutter	1,430	0	0
Tehama	660	0	0
Trinity	<440	0	0
Tulare	7,260	0	4,400
Tuolumne	880	0	55 (compost)
Ventura	20,900	0	0
Yolo	1,540	0	330
Yuba	550	0	0

* Some Class B applied in January 2003; after February 2003 only Class A applied on unincorporated lands in county
** includes California biosolids air-dried in Arizona and shipped back to CA for application
Notes:

1. These are rough values based on annual reports from those facilities required to report under 503, 2S forms, reports required under the NPDES program, and in some cases estimates based on influent flows to facilities.
2. Value of "0" for treatment by second preparer, or for land application, means less than 440 dry tons per year; tracking is not done for very small facilities in most cases. POTWs producing less than 440 dry tons per year of biosolids generally only use or dispose of biosolids once every several years.
3. The county of use of composted biosolids is not tracked in some cases.
4. Approx. 66,000 dry tons of California biosolids were transported and treated to Class A and/or land applied in Arizona, Nevada, and Fort Mojave lands in 2003.

Source: Fondahl, U.S. EPA Region IX Biosolids Coordinator. Provided June 7, 2004.

Table 2-2a. Insert the following new table after Table 2-2a.

Table 2-2b. Crops Grown in California with Biosolids in 2003 (Class A, Class B, and Compost)

Type of Crop	Amount of Biosolids Applied (Dry Tons)	Percent of Total
Cotton	80,300	20.8
Alfalfa	37,400	9.7
Winter wheat, for feed	36,300	9.4
Winter wheat, green chop	17,600	4.5
Wheat, for food processing	3,960	1.0
Sudan grass	35,200	9.1
Silage corn	34,100	8.8
Orchard (fruits and nuts)	23,100	5.9
Oats, for hay	10,340	2.7
Oats, for feed	2,200	0.6
Milo	8,800	2.3
Pasture	5,500	1.4
Safflower	2,200	0.6
Clover	2,200	0.6
Landscaping	79,200	20.5
Nursery	6,380	1.6
On-site vegetation	2,200	0.6
Total	**386,980**	**100**

Source: U.S. EPA, Region IX, Biosolids Coordinator. San Francisco, CA. March 2004

Page 2-5, revise the first and second paragraphs under "Future Biosolids Production and Use in California" as follows:

Future biosolids production can be estimated based on population projections and estimated per capita generation rates. Statistics compiled from the California Department of Finance's Demographic Research Unit and CASA are used in this EIR to make a

broad estimate of the amount of biosolids that will be produced as California's population increases over time. This estimate does not distinguish between urban and rural population, although rural populations are generally not served by wastewater treatment plants and therefore would not contribute to the total production of biosolids. Assuming that the general trend of increasing urbanization continues, the following will tend to underestimate the future production of biosolids. Nonetheless, it offers a reasonable estimate for the purposes of this program EIR and the general nature of this project. ~~The estimate assumes that the relative percentage of urban/rural residents will remain the same into the future. As a result, the following may underestimate future production if the general trend of increasing urbanization of the State's population continues.~~

Based on the Department of Finance's estimate, California's population at the end of 2003 ~~in 2001~~ (the ~~date of the latest CASA~~ most recent U.S. EPA Region IX estimate of biosolids production) was approximately ~~34.37~~ 36.14 million people (California Department of Finance ~~2001~~ 2004a) This number is projected to increase to approximately ~~48~~ 44 million people by 2020 (California Department of Finance 2004b). Based on the ~~2001 CASA~~ 2003 U.S. EPA Region IX estimate of biosolids generation (~~5,884~~) 2,130 dry TPD) and assuming the per capita biosolids generation remains similar until 2020, the total estimated production of biosolids is expected to increase to approximately ~~7,840~~ 2,590 dry TPD in the year 2020.

Page 2-8, add the following paragraph before "Other Policies and Procedures:"

All things being equal, treatment to meet Class B standards is less expensive than meeting Class A or EQ standards.

Page 2-9, revise the second paragraph under "Local Programs," and add another discussion as follows:

Of the 58 counties in California, 17 currently have ordinances that relate directly to land application of biosolids (this reflects conditions as of early 2004). In the baseline year for this PEIR, 16 had ordinances. Three counties have outright bans on land application, nine have effective bans (their ordinances are so restrictive that they effectively discourage land application), and five allow regulated use. The remaining 41 counties without ordinances rely on the RWQCBs to regulate land application through the WDR process. These local ordinances are important because they restrict the areas within the state that can currently accommodate land application of biosolids, and they supercede the controls of the proposed GO when they are more restrictive. In the baseline year on which the PEIR analyses are founded, neither Fresno, Kings, Kern, nor Riverside Counties' ordinances prohibited the application of Class B biosolids as they do today. The amended ordinances are summarized in Appendix C of this PEIR.

The purpose and intent sections of the most recent local ordinances share a number of themes that are summarized here:

- Protection of public health, surface and groundwaters, agricultural markets, and wetlands (Fresno, Kings, San Bernardino, and Stanislaus Counties)
- Concern over unanswered questions regarding "safety, environmental effect, and propriety of land applying" (Kern and Riverside Counties)

The following table lists some of the counties that have enacted local ordinances, as of May 2004. In cases where application is restricted to Class A or Class A-Exceptional Quality (EQ) biosolids, the ordinances are more restrictive than the proposed General Order. In those situations, the RWQCB would not issue a permit authorizing the application of Class B biosolids.

Table 2-2c. Selected County Ordinances

County	Land Application Allowed?	Types of Biosolids	Permit Agency	Adopted After 1999?
Fresno	Yes.	Class A Exceptional Quality (EQ) or EQ compost only.	Agricultural commissioner	2001
Kern	Yes. Setback requirements.	EQ only.	Environmental Health Services Department	2002
Kings	Yes. No application to pasture or rangeland. Setback requirements.	Class A until 2006, then EQ compost only	Agricultural commissioner	2001
Riverside	Yes	Class A and EQ only	Health Department	2001
San Bernardino	Yes. Setback requirements, incl. 500 feet from food crops	All; no application allowed to food crops.	Environmental Health Services Department	No.
Solano	Yes. Setback requirements, incl. 2 miles from cities.	Class A and Class B	Environmental Health Department	Amended 2003
Stanislaus	No	None	N/A	No.
Tulare	Yes	Class A only	Agricultural Commissioner	No.
Yolo	Yes. Setback requirements.	Class A and Class B	Public Health Department	No.

Chapter 3, "Soils, Hydrology and Water Quality"

There would be no changes to Chapter 3.

Chapter 4, "Land Productivity"

Page 4-15, revise Mitigation Measure 4-3 as follows:

Mitigation Measure 4-3: Track and Identify Biosolids Application Sites. A program to identify and track application of biosolids on agricultural lands should be established to mitigate the potential perception by produce buyers and consumers that crops have been contaminated or damaged by biosolids applications. The program should allow for public access to site location information . The program should also identify previous biosolids application ~~incorporation~~ sites and add them to the tracking system.

Chapter 5, "Public Health"

Page 5-14, second paragraph under "Dioxins." Revise the third sentence to read as follows:

In late 1999, the U.S. EPA initiated a rulemaking to consider the regulation of the use and disposal of sewage sludge containing dioxins ~~in biosolids~~.

Page 5-29. The first full paragraph under "Food Safety" is revised to read as follows:

The California Department of Food and Agriculture (CDFA) adopted standards limiting the concentrations of arsenic, cadmium, and lead in inorganic commercial fertilizer and agricultural mineral products, effective January 1, 2002. These standards do not apply to biosolids. ~~has started an open, facilitated process to develop regulations covering heavy metals in commercial fertilizers, biosolids, non-hazardous ash, and other soil amendments. This work is being done in conjunction with the University of California and will focus on both inorganic and organic fertilizers. The process will continue over the next year. The results of this effort will be reviewed by the SWRCB and adjustments to the proposed GO could be made if necessary to protect food safety~~ The CDFA has also enacted regulations requiring the labeling of base fertilizing material with a guarantee that the material does not exceed established standards for arsenic, cadmium, or lead. Base fertilizing ingredients include a variety of chemical and metallic materials. The provisions do not apply to biosolids because they do not qualify as a "base fertilizing material".

Page 5-30. The first full paragraph is revised to read as follows:

Note that uncooked food sold by retail establishments and food consumed at home by the public is ~~not directly~~ protected by the ~~Model Food Code~~ California Uniform Retail Food Facilities Law, which incorporates the latest and best scientifically based advice for preventing foodborne illness. This ~~Code~~ law is used by local ~~and state agencies~~ responsible for inspecting and enforcing safe food handing practices at the retail level.

Page 5-46, second and third paragraphs under "Impact: Potential for Exposure of Residents and Agricultural Workers . . . ." Revise the paragraphs to read as follows:

The potential for radioactive materials to contaminate agricultural fields is a concern of this PEIR. The ISCORS has opined that over the long-term (periods of 50 to 100 years) the application of biosolids containing radioactive materials to fields may lead to impacts on the health of residents and agricultural application workers from exposure to radon

(Interagency Steering Committee on Radiation Standards 2003a). The model applied by ISCORS found a small risk to on-site residents of radiation exposure in excess of recommended levels; the modeled exposure for workers applying biosolids to agricultural fields was one-tenth of the recommended exposure. For purposes of modeling this risk, ISCORS assumed that residents would live on land where biosolids had been previously applied for 50–100 years, raise half of their consumed fruits and vegetables on the land, consume only milk and meat produced on the land, and consume water from an on-site well; the worker applying biosolids would work daily within an enclosed tractor. Conditions vary widely between POTWs regarding the presence of radioactive materials in the wastestream and, based on the survey prepared by ISCORS, radioactive material in biosolids is not a widespread problem (Interagency Steering Committee on Radiation Standards 2003b). Further, POTWs may take specific actions that will help them avoid endangering personnel and keep contamination levels to acceptable levels (Interagency Steering Committee on Radiation Standards 2003c).

This impact is considered potentially significant. However, implementation of Mitigation Measures 5-3 and 5-4 will reduce it to a less-than significant level.

Page 5-47, Mitigation Measure 5-4. Revise the mitigation measure as follows:

Mitigation Measure 5-4. POTW Operators Maintain Awareness of Potential Radioactive Materials in the Wastestream. As part of its GO, the SWQCB shall require the operators of POTWs that produce land applied biosolids to follow the recommendations contained in ~~the~~ ISCORS' November 2003 draft report entitled "Assessment of Radioactivity in Sewage Sludge: Recommendations on Management of Radioactive Materials in Sewage Sludge and Ash in Publicly Owned Treatment Works" (ISCORS Technical Report 2003–04), as it may be amended, for screening, identification, and consultation.

The purpose of this measure is to reduce exposure outside the POTW should the operator identify elevated levels of radioactive materials. This may be accomplished by reducing the flow of such materials from their source to the POTW. It may also be accomplished by changing the approach by which the biosolids from that POTW are managed. As described in ISCORS Technical Report 2003–04, the POTW operator may consider any of the following, dependent upon the specific circumstances:

- Reduce the number of years of application to the same site;
- Reduce the frequency of applications to the same site;
- Increase the holding times at the POTW before land application to allow for the decay of radionuclides with relatively short half-lives;
- Divert biosolids management from land application to landfill disposal or land reclamation; and
- Consider other alternative biosolids use and disposal practices.

Chapter 6, "Land Use and Aesthetics"

Page 6-6. The bullet list under "Thresholds of Significance" contains a typographical error. In order to reflect the correct list, the third bullet should read as follows.

- Substantially degrade visual quality in adjacent areas;

Chapter 7, "Biological Resources"

Page 7-11, Mitigation Measure 7-1 contains typographical errors. In order to reflect the measure included in the previously certified PEIR for this project, it should read as follows:

> **Mitigation Measure 7-1: Modify Preapplication Report and Provide Biological Information.** The preapplication report shall be revised to include a location for the discharger to indicate whether the land application site contains natural terrestrial habitat areas or whether it has been fallow for more than 1 year. The discharger must submit a report that states whether special-status species occur on the site. If special-status species occur on the site, the report must identify the measures that will be taken to mitigate or avoid impacts on these species; this report must be forwarded to the appropriate regional office of the DFG and the Endangered Species Unit of the USFWS in Sacramento for review an approval of the mitigation strategy. The report must be prepared by a qualified biologist.

Chapter 8, "Fish"

There would be no changes to Chapter 8.

Chapter 9, "Traffic"

There would be no changes to Chapter 9.

Chapter 10, "Air Quality"

There would be no changes to Chapter 10.

Chapter 11, "Noise"

There would be no changes to Chapter 11.

Chapter 12, "Cultural Resources"

There would be no changes to Chapter 12.

Chapter 13, "Cumulative Impacts"

There would be no changes to Chapter 13.

Chapter 14, "Alternatives Analysis"

Page 14-4, bullet list of provisions applicable to the Modified GO Alternative. Add the following new bullet:

- Operators of POTWs that produce land-applied biosolids must follow the recommendations contained in ISCORS' November 2003 draft report entitled "Assessment of Radioactivity in Sewage Sludge: Recommendations on Management of Radioactive Materials in Sewage Sludge and Ash in Publicly Owned Treatment Works" (ISCORS Technical Report 2003–04), as it may be amended, for screening, identification, and consultation.

Page 14-5, first paragraph under Class A Alternative. Revise this paragraph as follows:

This alternative would allow the application of only Class A biosolids to land. As noted elsewhere in the PEIR, Class A biosolids have been treated so as to essentially eliminate the pathogens that are otherwise present in Class B biosolids. The proposed General Order would cover the beneficial use of Class A, Exceptional Quality, and Class B biosolids. Under the Class A Only Alternative, the GO would exclude the land application of Class B biosolids. As a result, the streamlined permitting provided by this alternative GO would be limited to those biosolids that have been treated to significantly reduce viable pathogens prior to their application to land. The Class A Only Alternative would not prohibit the issuance of individual waste discharge permits for the land application of Class B biosolids in specific cases. That existing permitting approach would remain in effect. However, from a practical standpoint, individual permits are more difficult to obtain than a General Order permit and this alternative would be

expected to result in less extensive reuse of Class B biosolids for land application than might be expected to occur under the proposed GO.

Page 14-7, first paragraph under Class A Alternative. Revise this paragraph as follows:

Exceptional Quality (EQ) biosolids are biosolids that meet Class A requirements, strict vector attraction reduction requirements, and the lowest metals content requirements of any biosolid (40 CFR 503.13 and 40 CFR 503.32). When a biosolid meets EQ standards, there are no U.S. EPA restrictions for use, and monitoring the application site for the cumulative concentration of toxic metals is not required~~oncentration~~. EQ biosolids are commonly sold by the bag and marketed for home, rather than commercial agricultural, use. In contrast, while Class A biosolids have no site restrictions, they are subject to monitoring to avoid the ~~concentration~~ accumulation of toxic metals over time.

Page 14-8, last paragraph on the page. Revise this paragraph as follows:

Another response to county bans has been to find alternative locations for the land application of biosolids. As application sites have become less available in California, some sanitation agencies have increased their shipments of Class B biosolids to Arizona and Nevada for beneficial reuse on agricultural lands in those states (Arizona Department of Environmental Quality 2004). Treating biosolids to Class A standards does not necessarily make them acceptable to all counties that restrict Class B biosolids. For example, Fresno and Kern Counties allow only Exceptional Quality compost ~~Riverside County would not allow the application of odiferous Class A biosolids (Class A treatment does not necessarily remove odors)~~, and Kings County will allow only Exceptional Quality compost beginning in 2006.

Page 14-10, last paragraph on the page. Revise this paragraph as follows:

One positive impact is that the weight and volume of biosolids hauled from the treatment plant would be reduced ~~to a quarter of~~ from the "dewatered" biosolids amount, depending upon the moisture content of the treated biosolids. This ~~significantly reduces~~ could significantly reduce the number of truckloads hauled from the site and subsequent emissions and traffic disruption.

Page 14-13, first paragraph under "Food Crop Limitation Alternative." Revise this paragraph as follows:

Under this alternative, the GO would prohibit the application of all biosolids to lands where food crops are grown, except where an individual waste discharge permit may be issued. The existence of a GO otherwise prohibiting the use of biosolids on land intended for food crops would likely discourage the issuance of individual permits. The Food Crop Limitation would invoke a state standard that is stricter than federal regulations by prohibiting the application of Class A, Class B, and Exceptional Quality biosolids to lands were food crops are grown. The term "food crops" should be the same as used in federal regulations. The Part 503 regulations define food crops as follows:

Page 14-17, delete the third and fourth paragraphs on this page and replace with the following:

The US EPA reports that in 2003 approximately 386,980 dry tons of Class A and Class B biosolids were applied to agricultural land, including 79,2000 dry tons applied to landscaping and 6,380 dry tons used in nurseries (Fondahl 2004). Of this amount, approximately 27,060 dry tons (approximately 7% of the total applied to land) were applied to food crops. This consisted of approximately 3,960 dry tons applied to wheat used for food processing and 23,100 dry tons applied to fruit and nut orchards.

Page 14-17, revise the fifth paragraph on this page to read as follows:

Under this alternative, the volume of Class A and Class B biosolids that could be applied to agricultural land would be ~~substantially~~ reduced because the pool of available agricultural land would be reduced. As a result, ~~a major method of using biosolids would be eliminated and alternative means of dealing with nearly half of the production of biosolids would need to be found~~ new treatment approaches such as transport out of state, incineration, surface disposal, or landfill disposal (including use as ADC) would need to be found for approximately 3.4% of the total statewide production of biosolids (approximately 27,060 dry tons in 2003).

Page 14-17, last sentence on the page. Revise this sentence to read as follows:

Therefore, reduction in their use would result in an increase in the use of chemical fertilizer products, with a resultant potential increase in release of nitrogen to the environment (i.e., surface water and groundwater) due to the more mobile/soluble form of nitrogen found in chemical fertilizers, as compared to biosolids. In general, because many of the nutrients in biosolids are in organic form, the potential for the loss of nutrients by leaching or runoff is lower than for similar amounts of more water-soluble chemical fertilizers (Penn State University 1999, U.S. EPA 2000). ~~chemical fertilizers' greater nitrogen concentration~~.

Page 14-20, third full paragraph on the page. Revise this paragraph as follows:

Biosolids are being applied as alternative daily cover in only 15 of the state's landfills (CIWMB 2003b) and only three of these on a routine basis (CIWMB 2004). Because biosolids are limited to 25 percent of the daily cover, and only a small number of landfills will accept biosolids for this use, this means of beneficial use is unlikely to increase substantially. The California Integrated Waste Management Act requires that local agencies divert at least 50% of their pre-1995 solid waste stream from landfills or face substantial fines. This acts as a disincentive to substantial increases in landfilling of biosolids because it would reduce the jurisdiction's diversion rate and potentially make it liable for sanctions from the state. The staff of the California Integrated Waste Management Board has stated that if biosolids can no longer be applied to land, the treatment of sludge into biosolids may fall off significantly since there would be no demand for treated biosolids, and the result would be large quantities of unprocessed sludge finding its way into "already space-limited landfills (CIWMB 2004).

Page 14-21, delete the third sentence under "Impacts," beginning with "This relocates this traffic…"

Page 14-27, insert the following discussion of cumulative impacts before "Modified GO Provisions and Specifications Alternative:"

Cumulative Impacts

The cumulative impact analysis is based on a projections approach since a statewide GO does not lend itself to project-specific analysis. Traffic levels on certain segments of most major highways in the state's urban areas do not meet the level of service standards of the applicable congestion management plan. Further, the San Joaquin, South Coast, and Mojave air basins are in nonattainment for certain ozone precursors and particulate matter, as described in their respective air quality management plans. The No-Project Alternative would result in similar contributions to cumulative impacts as the proposed GO. That is, it would make a less than significant contribution to cumulative nitrate contamination of groundwater, increases in NOx and PM10 emissions, and deterioration of roadways.

Page 14-30, insert the following discussion of cumulative impacts before "Land Application Ban Alternative:"

Cumulative Impacts

The cumulative impact analysis is based on a projections approach since a statewide GO does not lend itself to project-specific analysis. Traffic levels on certain segments of most major highways in the state's urban areas do not meet the level of service standards of the applicable congestion management plan. Further, the San Joaquin, South Coast, and Mojave air basins are in nonattainment for certain ozone precursors and particulate matter, as described in their respective air quality management plans. The Modified GO Provisions and Specifications Alternative would result in a reduced level of contributions to cumulative impacts as the proposed GO. As a result, it would make a less than significant contribution to cumulative nitrate contamination of groundwater, increases in NOx and PM10 emissions, and deterioration of roadways.

Page 14-32, revise the fourth paragraph under "Public Health" as follows:

Agricultural sites currently using biosolids for soil conditioning and as a source of nutrients could, in the future, receive animal manures as an alternative. The U.S. EPA regulations on the disposal of animal wastes from concentrated animal feeding operations (COFAs) that were adopted in April 2003 require that COFAs develop and implement a nutrient management plan that includes, among other things, protocols to land apply manure and process wastewater at agronomic rates, to minimize the movement of nitrogen and phosphorus to surface waters, and to control runoff. Under these regulations, all COFAs are considered point sources and are subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements in order to avoid discharges to waters of the United States (U.S. EPA 2003). NPDES permits are issued by the Regional Water Quality Control Boards. The public health implications of ~~this change~~ changing from biosolids to animal manure have not been investigated extensively, but the ~~use~~ pathogen content and vector attraction characteristics of animal manures ~~is~~ are not currently actively regulated. Some additional public health effects could result from this change in the fertilizer choice.

Page 14-34, insert the following discussion of cumulative impacts before "Class A Only Alternative":

Cumulative Impacts

The cumulative impact analysis is based on a projections approach since a statewide GO does not lend itself to project-specific analysis. Traffic levels on certain segments of most major highways in the state's urban areas do not meet the level of service standards of the applicable congestion management plan. Further, the San Joaquin, South Coast, and Mojave air basins are in nonattainment for certain ozone precursors and particulate matter, as described in their respective air quality management plans. The Land Application Ban Alternative would result in greater contributions than the proposed GO to cumulative impacts on traffic and air quality. Banning the application of biosolids to land in California would eliminate the most common method of expending the biosolids generated by practically all wastewater treatment plants statewide. This would be expected to substantially increase truck traffic on major roads between California generators and land application sites in states such as Nevada and Arizona. This will make a cumulatively considerable contribution to traffic where levels of service currently or are projected to exceed LOS D (a common standard for traffic flow adopted by Congestion Management Agencies). There will also be cumulatively considerable contributions to air quality impacts (ozone precursors) related to truck emissions in the South Coast, and Mojave air basins. This alternative would avoid contributing to the cumulative nitrate contamination of groundwater.

Page 14-34, first paragraph under "Class A Only Alternative." Revise this paragraph as follows:

The Class A Only Alternative is compared to the proposed GO, before mitigation. Because it incorporates a number of mitigating features, this alternative would result in less severe impacts than the proposed GO in several areas, including public health, land use/aesthetics, biological resources, fish, noise, and cultural resources. This alternative would result in more severe impacts than the proposed GO in the areas of traffic, air quality, and energy consumption.

Page 14-35, first paragraph under "Public Health." Revise this paragraph as follows:

The Class A Only Alternative would have a less-significant impact in all areas under public health. Class A biosolids have been treated so as to essentially eliminate the pathogens that are otherwise present in Class B biosolids at the time of application. As a result, there are no access or harvesting limitations associated with Class A biosolids use. Limiting land application to Class A biosolids only could avoid impacts related to public exposure to pathogens that would result if public access regulations for Class B biosolids were not followed. Overall, this impact of this alternative would less severe than the proposed GO.

Page 14-35, "Traffic." Revise the discussion as follows:

Many of the major generators such as East Bay MUD, County Sanitation Districts of Los Angeles, and Orange County Sanitation District do not have the ability at this time to treat all their biosolids to Class A standards. Class A treatment will require a substantial investment in new facilities and processes. Because of the ~~The~~ additional cost of Class A treatment, in comparison to Class B treatment, ~~could lead to an~~ major California generators may (at least in the midterm) increase ~~in~~ the amount of Class B biosolids being trucked out of state for beneficial use rather than build Class A treatment capacity.

This is already occurring as a result of the local restrictions on the use of Class B biosolids ~~now being~~ that have been imposed in Kern, Fresno, Riverside, and Kings Counties since 1999. The Arizona Department of Environmental Quality estimates that approximately 1,014 dry tons of biosolids were transported from California producers (primarily from Southern California) to sites in Arizona in the year 2001. In 2002, approximately 59,906 dry tons were brought in from California. Of this, approximately 34,917 dry tons were applied to land, 8,649 dry tons were composted, and 16,340 tons were disposed of in landfills. The Department's biosolids coordinator ~~expects~~ expected that, when compiled, the 2003 tonnage ~~will~~ would be even greater (Reed pers. comm.). An unpublished CASA survey estimates that over 105,000 dry tons of biosolids produced by Southern California sanitation agencies were transported to and managed in Nevada and Arizona in 2003. In some cases, over 1/3 of the particular agency's output was transported out of state (Hudnall pers. comm.).

The Arizona Department of Environmental Quality's 2003 compilation of biosolids received from California generators indicates that, as expected, approximately 105,860 dry tons of biosolids were delivered to Arizona sites (Arizona Department of Environmental Quality 2004). This included approximately 70,675 tons applied to land, 3,013 tons composted, and 32,172 tons processed. None were disposed of in Arizona landfills. At the same time, the Orange County Sanitation District trucked approximately 16,720 dry tons of biosolids (including approximately 1,890 tons of Class A) to Arizona, Nevada, and the Fort Mohave Reservation in San Bernardino County, California, for land application (Orange County Sanitation District 2004).

To relate the dry volume being transported to the number of truck trips, a truck will haul approximately 24 tons of biosolids per trip, on average (Gillette pers. comm.). Although the actual number of truck trips is unknown, a reasonable estimate for 2003, based on information from Arizona, is ~~4,375~~ 4,410 one-way trips (i.e., ~~8,750~~ 8,820 trips in both directions) to Arizona ~~and Nevada~~ receiving sites ~~per year~~. This does not include the approximately 695 one-way trips to the Fort Mohave Reservation. These trips would be distributed among the Southern California biosolids producers and have a variety of origins and final destinations.

While the number of out-of-state truck trips is increasing, so, in some cases, is the length of trip. As an example of the distance that biosolids are being transported, ~~one Southern California biosolids producer~~ the Orange County Sanitation District is hauling Class B biosolids from 290 to 370 miles one-way to land application sites in Arizona and Nevada. In contrast, when agricultural sites were available in Kern and Kings Counties, the one-way trip was approximately 200 miles or less (Baroldi 2003).

The Class A Only Alternative would not shift all truck trips to sites in Arizona, or otherwise out of state. Delivery of biosolids to the southern San Joaquin Valley would continue under the Class A Only Alternative.

Class B biosolids are currently, and will continue to be, brought to San Joaquin Valley facilities for treatment to meet Class A standards. For example, during 2003, the Orange County Sanitation District trucked approximately 19,270 dry tons Class B biosolids to facilities in Kern and Kings Counties where, by means of lime stabilization, they were converted to Class A biosolids, which meet County ordinance requirements for land application (Orange County Sanitation District 2004). In the future, some Class B biosolids may continue to be trucked to Kern and Kings County locations for composting.

As an example of future activity, Kings County approved a composting facility in April 2004 that would eventually accept up to 500,000 tons of Class B biosolids per year from the Los Angeles County Sanitation Districts (the proposed facility is still obtaining other permits). The facility would produce up to 900,000 tons per year of Class A EQ compost. The compost would be applied to land in those counties, in accordance with county ordinances. While trucking distances for these biosolids would remain basically unchanged from 1999, the composting process requires the delivery of bulking agents to the composting operations. Bulking agents such as wood chips or agricultural wastes would likely originate within the same county. Nonetheless, delivering bulking agents adds more truck trips to the operation than would have been necessary for the application of Class B biosolids without composting.

Class A biosolids will also be delivered to the San Joaquin Valley for land application in a manner that complies with county ordinances. For example, the City of Los Angeles Department of Public Works Bureau of Sanitation trucked approximately 80,500 dry tons of Class A EQ biosolids to Kern County for land application in 2002 (City of Los Angeles Department of Public Works Bureau of Sanitation 2003). This would maintain much the same level of truck traffic generated by the Class A Only Alternative and the proposed GO.

A detailed traffic impact analysis of the Class A Only Alternative is not feasible. If approved, the proposed GO would apply statewide. The essential decisions regarding treatment method, level of treatment, location of land application, mix of application versus disposal, locations of viable application sites (depending upon the class of biosolids), and POTWs' ability to invest in the technology necessary to provide some established basis for study assumptions are outside the control of the SWRCB. These decisions are based on the individual needs and economics of the well over 100 sanitation agencies within California, in addition to the changing availability of land for biosolid application and the availability of biosolid disposal sites and landfills. Any attempt to model various scenarios mixing distances, classes of biosolids, beneficial use, disposal in landfills or disposal sites, on-site disposal, and other variables would be largely speculative. Therefore, the following offers a qualitative discussion of relative traffic impacts comparing the Class A Only Alternative to the proposed GO.

An increase in the number of truck trips ~~This outcome~~ would be expected when the cost of Class A treatment exceeds the cost of Class B treatment plus the cost of transport and there are available land application sites for Class B biosolids outside ~~out~~ of California. Assuming generally that the Class A Only Alternative would result in a reduction of the volume of biosolids being applied in California, then this alternative would have a less severe impact on local traffic in California than would the proposed GO. With the loss of biosolids as a soil amendment, those lands currently receiving Class B biosolids would require other sources of nutrients and soil conditioners. Some level of traffic would be associated with supplying this replacement material, but it would likely be less than that associated with biosolids application, particularly if chemical fertilizers are used (chemical fertilizers tend to be more concentrated than biosolids so less may be used). Some additional local traffic would be generated in conjunction with the delivery of bulking agents where composting facilities exist. ~~At the same time, long-distance traffic would increase on major highways to Nevada and Arizona.~~

At the same time, long-distance traffic would increase on major highways to Arizona and Nevada. If the application of Class B biosolids is essentially prohibited in California

(streamlining Class A application would strongly discourage the application of Class B biosolids by requiring that individual permits be acquired), sanitation agencies can be expected to continue to increase the dry tonnage of biosolids that are being transported out-of-state. Although the impact cannot be quantified by number of trips per east-west highway because the origins and ends of the trips are various, overall the ~~substantially~~ longer truck hauls from producer to application site and the increasing number of these truck trips can reasonably be assumed to result in a more severe impact than under the proposed GO. However, the impact would still be less than significant.

Page 14-37. Revise the discussion under "Air Quality" as follows:

The lack of Class A treatment capacity and additional cost of Class A treatment, in comparison to Class B treatment, may lead to an increase in the amount of Class B biosolids being trucked out-of-state for beneficial use. Overall, additional truck traffic on southern routes to Nevada and Arizona would incrementally increase air emissions.

Assuming for purposes of a general analysis that the average truck trip to and from Arizona application and disposal sites is approximately 660 miles round trip, and there are approximately 8,820 round trips yearly, then oxides of nitrogen (NOx) emissions will exceed the adopted thresholds of both the South Coast and Mojave AQMDs for this ozone precursor. This would be a significant cumulative impact on air quality. Estimated emissions for reactive organic gases (ROG), volatile organic compounds (VOC), and particulate matter (PM10) did not exceed their respective threshold levels. The results of the analysis are illustrated in Table 14-1 below.

Table 14-1. Estimated Operational Emissions of Heavy-duty Diesel Truck-Trips (lbs/day)

Location	NOx	ROG/VOC*	PM10
South Coast air basin	192.5	6.5	2.3
South Coast AQMD Thresholds	55	82	150
Mojave Desert air basin	385.5	12.9	4.6
Mojave AQMD Thresholds	137	137	82

* South Coast AQMD uses ROG threshold whereas Mojave AQMD uses VOC.

This estimate was prepared by using the EMFAC2002 model to obtain summer emission rates (in grams/mile) for the South Coast Air Basin for heavy-duty trucks, year 2005, assuming a speed of 55 mph. Of the estimated total number of miles traveled in a year, the analysis assumed that one-third would be within the South Coast air basin and two-thirds within the Mojave Desert air basin. The pounds per day emissions of ROG, NOx, and PM10 within each air basin were calculated by multiplying the emissions rates by the total miles traveled and dividing by 365 days. Finally, the resultant cumulative daily emissions were compared to the South Coast and Mojave AQMD's thresholds. Emissions which exceed the thresholds would result in a considerable contribution to cumulative air quality impacts.

The Class A Only Alternative would have a more severe impact than the proposed GO. Individually, the impact would be less than significant with the mitigating features incorporated into this alternative.

Page 14-37. Revise the discussion under "Cumulative Impacts" as follows:

The cumulative impact analysis is based on a projections approach since a statewide GO does not lend itself to project-specific analysis. Traffic levels on certain segments of most major highways in the state's urban areas do not meet the level of service standards of the applicable congestion management plan. Further, the San Joaquin, South Coast, and Mojave air basins are in nonattainment for certain ozone precursors and particulate matter, as described in their respective air quality management plans. Lastly, California has had a chronic problem with energy – whether from lack of supply during peak periods, or lack of transmission capacity. While both electricity and natural gas are currently adequate, new transmission capacity is needed to avoid future shortages (California Energy Commission 2002). The Class A Only Alternative would result in greater contributions than the proposed GO to cumulative impacts on traffic, air quality, and energy consumption. Increased truck traffic on major roads between southern California and land application sites in Nevada and Arizona will make a cumulatively considerable contribution to air quality impacts (ozone precursors ~~and particulate matter~~) related to truck emissions in the South Coast and Mojave air basins. This alternative would also contribute to energy consumption as a result of the more energy-intensive technology and processes necessary to treat biosolids to Class A standard, in comparison to the energy level necessary for Class B treatment.

Page 14-40. Revise the discussion under "Traffic" as follows:

As discussed under the Class A Only Alternative traffic section, a specific analysis of traffic impacts is infeasible and speculative. Therefore, the following will provide a general, qualitative consideration of traffic impacts.

Under the Food Crop Limitation Alternative, a portion of the biosolids being applied to land would no longer be transported to agricultural areas in California to be used as a source of nutrients and soil conditioning. ~~Instead,~~ Some of this biosolids material may be applied instead to nonfood crops within the same general area as the food crops to which it had previously been applied. Other of this material would be transported to landfills, incinerators, or lands outside of California for disposal and beneficial use. As discussed in the traffic impact section under the Class A Only Alternative, the truck traffic associated with transporting a larger proportion of the biosolids to out-of-state sites would be greater than under the proposed GO. Because only a relatively small amount of total biosolids production in California is currently applied to food crops processed for human consumption (approximately 24,600 dry tons in 2003), and a portion may be switched to nonfood crops in the same area, the truck traffic going out of state would probably be substantially less than that identified for the Class A Only Alternative (Fondahl 2004).

~~However, with~~ With the loss of biosolids as a soil amendment, those food crops currently receiving biosolids would require chemical or manure-based sources of nutrients and soil conditioners. Some level of traffic would be associated with supplying this replacement material, but it would likely be less than that associated with biosolids application, particularly if chemical fertilizers are used (chemical fertilizers tend to be more

concentrated than biosolids so less may be used). At the same time, long-range truck traffic would be expected to increase to carry biosolids to out-of-state beneficial use sites. Consequently, it is likely that the traffic associated with both biosolids beneficial use and disposal and delivery of chemical/manure-based soil amendments would be ~~than~~ similar to that under the proposed GO. ~~In addition, the~~ The substantially longer truck hauls from producer to out-of-state application site would result in a more severe impact to freeway traffic than under the proposed GO, but less than the Class A Only Alternative. However, overall the impact would still be less than significant.

Page 14-40. Revise the discussion under "Air Quality" as follows:

As discussed above, the level of traffic associated with the Food Crop Limitation Alternative would be expected to be greater than the proposed GO. To some extent, this alternative may lead to increases in incineration of biosolids if the cost is competitive with the cost of transport of biosolids to out of state beneficial use areas. Air emissions associated with incineration are assumed to be minimal, based on the stationary source requirements that would be imposed by the air quality districts. Those requirements would strictly limit additional emissions on a basin-wide basis. Increased truck traffic through the South Coast and Mojave air basins would result in increased emissions. However, because banning the application of biosolids to food crops may simply increase the application to nonfood crops in the same general area, this may be substantially less than identified for the Class A Only Alternative. The Food Crop Limitation Alternative would have a more severe impact than the proposed GO. However, overall the impact would be less than significant.

Page 14-40. Revise the discussion under "Cumulative Impacts" as follows:

The cumulative impact analysis is based on a projections approach since a statewide GO does not lend itself to project-specific analysis. Traffic levels on certain segments of most major highways in the state's urban areas do not meet the level of service standards of the applicable congestion management plan. Further, the San Joaquin, South Coast, and Mojave air basins are in nonattainment for certain ozone precursors and particulate matter, as described in their respective air quality management plans. Lastly, California has had a chronic problem with energy—whether from lack of supply during peak periods or lack of transmission capacity. While both electricity and natural gas are currently adequate, new transmission capacity is needed to avoid future shortages (California Energy Commission 2002). The Food Crop Limitation Alternative would result in greater contributions than the proposed GO to cumulative effects on traffic, air quality, and energy consumption. Increased truck traffic on major roads between southern California and land application sites in Nevada and Arizona would make a cumulatively considerable contribution to traffic impacts. By way of comparison, however, this contribution would probably be less than the contribution of the Class A Only Alternative. In addition, this alternative would make a cumulatively considerable contribution to air quality impacts (ozone precursors ~~and particulate matter~~) related to truck emissions in the South Coast and Mojave air basins. The increased distances over which biosolids would be transported, compared to current practice, would increase the amount of fuel consumed by transport trucks.

Chapter 16, "Citations"

Page 16-2. Insert the following new citations under "Chapter 2, Program Description:"

Fondahl, Lauren. US EPA Region IX. Personal Communication with Antero Rivasplata. March 31, 2004

State of California, Department of Finance. "E-1 City/County Population Estimates, with Annual Percent Change, January 1, 2003 and 2004." Sacramento, CA. May 2004a.

State of California, Department of Finance. "Population Projections by Race/Ethnicity, Gender and Age for California and its Counties 2000–2050." Sacramento, CA. May 2004b.

Page 16-22. Insert the following new citations:

Arizona Department of Environmental Quality, Water Quality Compliance. "2003 Arizona Biosolids from California Generators." Table. April 1, 2004.

California Energy Commission. Natural Gas Supply and Infrastructure Assessment. Publication 700-02-006F. Sacramento, CA. December 2002

California Integrated Waste Management Board. Staff report for agenda item 4 at the board meeting of April 13–14, 2004 ("Presentation of Background on Issues Impacting Biosolids Management in California"). Sacramento, CA. April 13, 2004.

City of Bakersfield, Department of Public Works. Website: www.bakersfieldcity.us/cityservices/pubwrks/wastewater. Accessed: May 28, 2004

City of Los Angeles Department of Public Works Bureau of Sanitation. "2002 Biosolids Management and EMS Performance Report." Los Angeles, CA. 2003

Orange County Sanitation District. "Orange County Sanitation District 40 CFR Part 503 Compliance Report for 2003." Fountain Valley, CA: March 10, 2004

Penn State University, College of Agricultural Sciences, Cooperative Extension. 1999 "Land application of sewage sludge in Pennsylvania: What is sewage sludge and what can be done with it?" University Park, PA.

U.S. EPA, Office of Water. 2000 "Biosolids Technology Fact Sheet – Land Application of Biosolids." U.S. EPA 832-F-00-064. Washington, DC.

U.S. EPA, Office of Wastewater Management. 2003 "Producers Compliance Guide for CAFOs." EPA 821-R-03-010. Washington, DC.

Appendix A, "Draft Text of the General Order"

2000 General Order, page 9, item 12. The first sentence is revised as follows:

> Each discharger covered by this General Order shall submit ~~an annual fee and~~ an application fee equal to the annual fee, …

The third sentence is revised as follows:

> Biosolids application projects greater than or equal to 40 acres …

2000 General Order, page 14, item 14. The sentence is revised as follows:

> The application of Class B biosolids containing a moisture content of less than 50 percent is prohibited.

2000 General Order, Page 17, item 9d. The statement is revised as follows:

> 50 feet from public roads right of way and …

2000 General Order, page 20, previous item 3. The first sentence of this paragraph is revised as follows:

> The discharger shall submit copies of each NOI to the appropriate regional office(s) of the Department of Fish and Game, Department of Health Services' Food and Drug Branch, local water district, City Planning Department, County Health Department(s) or Environmental Health Department(s), County Planning Department(s), and County Agricultural Commissioner(s) with jurisdiction over the proposed application site(s).

2000 General Order, page 22, item 17. The sixth sentence of this paragraph is revised as follows:

> Also, the discharger shall notify the Office of Emergency Services (1-800-852-7550), the State Department of Health Services, Food and Drug Branch (916 ~~445-2263~~650-6500), and the local health department as soon as practical but within 24 hours after the incident.

Appendix C, "Existing Regulatory Programs"

Page 16. In Table 9, add Santa Cruz to "Absolute Ban" column, Ventura to "Effective Ban" column, and Fresno, Kings, and Riverside to "Regulated Use" column.

Page 16. Replace the discussion under "Riverside County" with the following:

Riverside County adopted an ordinance in mid-2001 that simply prohibits the land application of Class B biosolids. Only Class A biosolids can be land applied within the County. In a subsequent action, the County repealed its prior ordinance that allowed land application with a permit from the County Health Department. The County is currently (May 2004) considering adoption of a new ordinance that would establish new registration, public notification, setback buffers, and testing requirements for the land application of Class A and Class A EQ biosolids. The ordinance would establish 4 "tiers" of increasing regulatory oversight dependent upon the type and character of the biosolids. Tier 1, garnering the least restrictive requirements, would apply to Class A EQ biosolids which exhibits minimal nuisance. Tiers 2 and 3 would be for Class A EQ biosolids with odor and fly attraction characteristics that warrant buffer zones from adjoining land uses. Tier 4 would apply to Class A biosolids.

Page 17. Revise the paragraph under "Kern County" as follows:

The Kern County ordinance was adopted in 2002. The requirements have not yet been adopted by the County. Some of the interim requirements include the following.

- Depth to groundwater must be at least 20 feet unless shallow groundwater TDS levels exceed 3,000 mg/l and this groundwater cannot be reasonably expected to supply groundwater.
- Biosolids must be incorporated into the soil at least seven inches within 24 hours of application.
- Biosolids monitoring is required as frequently as once per month depending on the land application rate and area.

The ordinance limits the type of biosolids applied to land to Class A EQ only. Soils on all fields are required to be tested prior to the application of EQ biosolids. The biosolids applier must obtain a permit from the County Environmental Health Department before any biosolids may be applied to agricultural land. The ordinance mandates specific setbacks from water sources, water bodies, and residences. It also requires regular monitoring and inspections.

Page 17. Add the following discussions at the end of the section:

Fresno County

Fresno County adopted a biosolids ordinance in 2001. The ordinance limits the use of biosolids to EQ or EQ compost only. The applier must obtain a permit from the Fresno County Agricultural Commissioner, as well as a permit from the Regional Water Quality Control Board.

Kings County

Kings County adopted a biosolids ordinance in January 2001 that prohibits the use of Class B biosolids and allows the land application of Class A biosolids until January 2006. Only EQ compost will be allowed after that date. Biosolids may only be applied with a permit from the County Agricultural Commissioner. Application is limited to lands zoned AG-40 or more than 2 miles from any school or the sphere of influence of

Corcoran, Avenal, the Stratford Public Utilities District, and the Kettleman City Community Services District; discharge to surface waters is prohibited.